

Application no.: 10/037,356

Docket no.: SEQ-2046-UT

AMENDMENTRECEIVED
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In the Claims

Please cancel claims 23-39, 41-56 and 60-61 without prejudice or disclaimer. Please amend claim 40 and please add new claims as provided below in the complete listing of the claims.

1-39. (cancelled)

40. (currently amended) A pin tool for use in a sample delivery system, the pin tool comprising one or more slotted pins each having an open tip adapted to fit around a material at a target location on a substrate without making contact with any portion of the material, wherein:

the slotted pin tool is adapted to be dipped into a sample reservoir containing a liquid sample to be delivered onto the substrate, thereby drawing a volume of liquid sample up into the one or more slotted pins in the pin tool.

41-61. (cancelled)

62. (new) The pin tool of claim 40, wherein a pin in the pin tool has a substantially cylindrical tip having a lateral slot forming a cavity with a width of about 75 μm or greater.

63. (new) The pin tool of claim 62, wherein the cavity of the cylindrical tip has a width up to about 500 μm .

64. (new) The pin tool of claim 40, wherein the cavity of the cylindrical tip has a height of about 100 μm or greater.

65. (new) The pin tool of claim 40, wherein a pin in the tool is tapered.

Application no.: 10/037,356

Docket no.: SEQ-2046-UT

66. (new) The pin tool of claim 40, in combination with a substrate comprising an array of target loci for deposition of sample material.

67. (new) The pin tool of claim 66, wherein an array of pins in the pin tool is matched to the array of loci on the substrate.

68. (new) The pin tool of claim 66, wherein target loci are less hydrophobic than the surrounding areas of the substrate.

69. (new) The pin tool of claim 68, wherein target loci are defined by application of photoresist materials and photolithographic deposition.

70. (new) The pin tool of claim 68, wherein a starting surface of the substrate is comprised of a material that has an available -OH or primary amine.

71. (new) The pin tool of claim 66, wherein:
the substrate comprises a first material and a second material; and
the first material has a contact angle that differs by at least about 20 degrees from the second material.

72. (new) The pin tool of claim 71, wherein the first material is polytetrafluoroethylene or a derivative thereof.

73. (new) The pin tool of claim 71, wherein the first material is or is dimethyldichlorosilane (DMDCS).

74. (new) The pin tool of claim 71, wherein the second material is silicon or silicon dioxide.

75. (new) The pin tool of claim 66, wherein target loci of the substrate comprise matrix.

76. (new) The pin tool of claim 75, wherein target loci of the substrate consist essentially of matrix.

Application no.: 10/037,356

Docket no.: SEQ-2046-UT

77. (new) The pin tool of claim 75, wherein target loci of the substrate consist of matrix.
78. (new) The pin tool of claim 66, wherein target loci of the substrate comprise an analyte.
79. (new) The pin tool of claim 78, wherein the analyte comprises a nucleic acid.
80. (new) The pin tool of claim 78, wherein the analyte comprises a protein.
81. (new) The pin tool of claim 40, wherein the outer surface of one or more pins is hydrophobic relative to the inner surface.